Please note that the following document is prepared as a DRAFT document for the Board of County Commissioner's agenda and is subject to modification.

Any person or firm who is interested in responding to this Request for Proposals may receive the approved final version by contacting:

Leon County Purchasing Divison
2284 Miccosukee Road
Tallahassee, Florida 32308

Telephone: 850.488.6949
Fax: 850.922.4084

DESIGN CRITERIA PACKAGE

FOR

REPAIR AND REINFORCEMENT
OF
LEON COUNTY COURTHOUSE PARKING STRUCTURES

TALLAHASSEE, FLORIDA

LEON COUNTY FACILITIES MANAGEMENT

Prepared by
W. Brick Rosenbaum, P.E.: FL Reg. No. 31301

ROSENBAUM ENGINEERING, INC.
327 Office Plaza Drive, Suite 103
Tallahassee, FL 32301
850-671-7230
Certificate of Authorization # 00007815
REI Project Number P03018
July 10, 2003

REPAIR AND REINFORCEMENT OF LEON COUNTY COURTHOUSE PARKING STRUCTURES

Tallahassee, Florida

TABLE OF CONTENTS

SECTION 1

PROJECT GUIDANCE TO DESIGN-BUILD FIRM

1. PROJECT INFORMATION

A. PROJECT LOCATION: The project is located at the Leon County Courthouse, 301 South Monroe Street in downtown Tallahassee, Florida. A location map is included in Appendix A.

B. PROJECT DESCRIPTION: A Structural Condition Assessment was prepared in April 2003 by Structural Diagnostics and Forensic Engineering (SDFE), Inc. Subsequently, the Assessment was updated and reissued on June 25, 2003 for inclusion in the Design Criteria Package. A copy of the revised assessment report is included in Appendix C of this "Design Criteria Package" (DCP). The purpose of this project is to repair and reinforce the reinforced concrete structure to correct deficiencies generally outlined in the Structural Condition Assessment Report.

C. DESCRIPTION OF STRUCTURE

1. The Leon County Justice Center South (herein after referred to as the Leon County Courthouse) was constructed in the late 1980's adjacent to the existing Leon County Courthouse Annex.

2. The structure is a total of ten (10) stories including five (5) levels of offices and public areas above ground level and five levels of parking garage below ground level. In addition, a 4-level parking structure is located under the front (west) plaza level which is connected to the main building parking levels. Several feet of soil sit on top of the 4-story garage under the front plaza. It is noted that a project to repair and reinforce a portion of the buried garage "roof" structure at the Plaza Level (2-way slab system between column lines M & J and 15 & 19.7) has recently been completed.

3. In general, the courthouse structure is reinforced concrete. The elevated floor structures in the five parking levels under the main courthouse building (east of column line M) consist primarily of a two-way, flat slab system. The elevated floor and roof structures under the front plaza (west of column line M) are one-way construction with one-way slabs spanning in the east west direction supported by reinforced concrete beams and walls spanning in the north/south direction. An expansion joint along column line M separates the two systems.

4. The plans in Appendix B include the general layout of the structure in the project area.

D. PROJECT LIMITS; The Physical limits of this remediation project shall generally match the limits of the Structural Condition Assessment Report but shall specifically be as depicted on the drawings in Appendix B. Note that the drawings in Appendix B are general and schematic in nature and do not show all beams, walls and other feature. Refer to the original drawings and as-built field conditions for actual conditions. The scope of work (limits of the project) shall specifically include the following:

1. All elevated horizontal and vertical Reinforced Concrete (R/C) structural elements within the "Limits of the Project" depicted on the drawings in Appendix B, and beginning at the top of the Level P-0 slabs-on-grade and extending upward to, and including, the Plaza Level structure.

2. On the plaza level, only the following elements are included (other Plaza Level R/C slabs and beams are excluded):

   a. Plaza Level garage roof structural members (beams, walls and slabs) west of, and along, column line M (above Level P-4) are included, except that the slab located between column lines P & N and 21 & 22 which were previously reinforced to carry a monument above, are excluded.

   b. R/C beams and expansion joint along column line M are included.

   c. Two beams along column lines K and L which support the main entry stair case (see Plan in Attachment B) appear to have voids in the concrete. Reinforcement and/or repair of these beams is included.

3. Except where noted otherwise, the project limits will stop at the interior face of the exterior R/C wall (defined as walls supporting soil on the outside face).

4. Interior R/C walls and R/C columns are included.

5. Repair of cracking and delamination of a section of R/C exterior wall located between Levels P-0 & P-1 and Column lines A and F.1.

6. The limits of the project does not include any work in the north parking garage or in the structural elements of same, unless noted otherwise.. The separation between the two garage structures is located along column lines 14 and/or 15, depending on the location and Level (see Appendix B).

2. GENERAL INFORMATION:

A. DEFINITIONS: Throughout this Design Criteria Package, certain terms, abbreviations and acronyms are used. The definitions for these items are as follows:

1. Certified General Contractor (**CGC**): A Florida licensed General Contractor who

has been certified in accordance with Florida Statutes, Section 489.

2. Design-Build Firm (**DBF**): The person or entity submitting a proposal in response to this Request for Proposal (**RFP**) or the qualified person or entity who has been awarded the contract for design and construction of this project, also defined as the Design-Build Firm in Florida Statutes, Section 287.055.

3. Design Criteria Package (**DCP**): The package of performance criteria, drawings, specifications and reports to be used by the DBF to design and construct the project, and as further define under Florida Statutes, Section 287.055.

4. Design Criteria Professional: The person or entity preparing the DCP, and as further define under Florida Statutes, Section 287.055.

5. Engineer: The Design Criteria Professional.

6. Guaranteed Maximum Price (**GMP**): DBF's final contract price to perform all Design-Build work specified in this **RFP.**

7. Owner's Representative (**O.R.**): Director of Leon County Facilities Management.

8. Product: Design Documents, Test Reports, completed construction, materials, systems and equipment installed in the completed facility.

3. DESIGN-BUILD FIRM RESPONSIBILITIES

A. GENERAL

1. This project will be awarded as a "Design-Build Contract" as defined by Florida Statues, Section 287.055. The selected Design-Build Firm will bear full responsibility for repairing and reinforcing the structure to restore structural integrity, enhance the longevity of the facility and to meet all applicable Code requirements.

2. During the performance of this contract, the DBF shall comply with all federal, state and local environmental laws, regulations, policies, and standards.

B. DESIGN RESPONSIBILITIES:

1. The Design-Build Firm shall retain Professional Engineers registered in the State of Florida, to oversee the design and construction of the project. The Design-Build Firm's Engineer will be the project "Engineer-of-Record" and as such, will bear full responsibility for the repair and reinforcement concepts and design, compliance with applicable codes and with the intent of this DCP.

2. The Design-Build Firm's Structural Engineer shall sign and seal all final drawings, specifications, calculations and other documents as the project Engineer-of-Record

in conformance with Florida Statues.

3. At completion of the design phase, a copy of the approved final, signed and sealed, repair and reinforcement design documents shall be provided by the Design-Build Firm to Tom Brantley, P.E., Director - Leon county Facilities Management, 1907 South Monroe Street, Tallahassee, Florida, 32301.

C. CONSTRUCTION RESPONSIBILITIES:

1. The DBF shall retain the services of a CGC, licensed in the State of Florida, to construct the repairs and retrofit reinforcement of the structure. The DBF shall acquire material products from reputable vendors and comply fully with the manufacturers' recommendations, training, installation and application instructions.

2. Construction Supervision and Oversight: The DBF shall engage qualified Project Superintendents and registered Professional Engineers, as required by the State of Florida, to oversee the design and construction work. The DBF shall coordinate with the Owner to meet at least biweekly to coordinate the work during construction.

3. During construction, the DBF shall keep an up-to-date annotated set of as-built drawings on-site. At completion of the construction phase, original documents shall be updated to the as-built condition and a signed and sealed copy shall be provided by the Design-Build Firm to Tom Brantley, P.E., Director - Leon County Facilities Management, 1907 South Monroe Street, Tallahassee, Florida, 32301.

D. MATERIAL RESPONSIBILITIES

1. Carbon Fiber materials are envisioned as a leading and technically available solution to be employed for the retrofit reinforcing work on this project. However, other solutions and/or materials may be appropriate and will be considered by the Owner.

2. The DBF shall be responsible for reviewing available sources of commercial and industrial carbon fiber (and/or other materials) suppliers and pre-aligning with such source companies as integral members of the DBF's Team for evaluation.

3. The DBF shall coordinate its investigation, testing program, design solutions and corrective remedies, material applications, peer reviews, certificates and warranties fully with the selected material manufacturers for this project.

4. The Owner envisions, and requires, that the final work product will be warrantied into the future by the DBF and the participating material manufacturers who shall be jointly and severally liable for the final installed systems.

5. The Owner will consider proposals from the DBF for participating in the Owner's

direct purchase of major materials, thereby utilizing and benefitting from its tax exempt status, subject to review and approval of the specific arrangements for same.

E. LOCAL SUBMITTALS AND BUILDING PERMIT

1. The DBF shall be responsible for identifying and securing all necessary permits required for the project, including but not limited to: site plan, excavation, building, environmental, traffic and other types of permits (e.g., adjacent property protection, underground and overhead utilities, tree protection, maintenance of traffic or traffic control, road/driveway/sidewalk closures, waste disposal, etc.). Complete copies of all permit applications and fee calculation forms shall be provided to the Owner.

2. The Owner will pay for all required permit fees applicable to the project, with at least 72-hours advance notice given by the DBF. The permit fees shall be paid directly by Owner's check to the permitting agency involved, or reimbursed to the DBF as an out-of-pocket expense.

3. Unusual permitting shall be handled by negotiation of the particular circumstances involved. Permitting due to specialty equipment or methods employed by the DBF, shall be provided at the DBF's own expense.

4. A copy of each permit shall be provided to the Owner and otherwise distributed per the contract requirements.

F. DESIGN FREEDOM: Requirements stated in this DCP are minimums. Innovative, creative, or cost-saving solutions and design proposals which meet or exceed these requirements are encouraged. However, deviations from any of the requirements of the DCP should be clearly noted and justified in the proposal. Informative drawing notes are encouraged.

G. CONFLICTS, ERRORS OR OMISSIONS: In the event design conflicts, error and/or omissions become apparent during construction, the DBF shall be responsible for correction of the design and shall furnish the necessary revised drawings, specification and other support data as required to resolve the condition to the satisfaction of the O.R. The DBF shall further perform all work necessary to execute the correct design and shall bear full cost for all corrective work.

H. WARRANTIES AND GUARANTEES

1. General: The required final constructed product shall be a complete warranted and guaranteed project both in terms of materials provided and the installation, labor, equipment, tools and methods used.

2. Warranties: DBF and Material Manufacturers must jointly and severally issue a minimum warranty of five (5) years against material defects for all manufactured products installed into the work. The manufacturer must confirm the ability of the DBF and the manufacturer to issue this warranty in a written statement by an

authorized agent of the manufacturer. This statement must be included with the submittals. Issue warrantees to "Leon County, Florida" prior to filing a Request for Final Payment.

3. Guarantees: The DBF shall guarantee the applications with respect to workmanship and proper application for five (5) years from the date of acceptance by the material manufacturer. Should any system failures covered under the warranty occur during this period, corrective action will be taken by the DBF to repair the installation to the satisfaction of the owner and material manufacturer. **All corrective work will be done at no cost to the owner.**

4. The Owner encourages proposals which propose to increase the terms of the material and workmanship warranties and guarantees. DBF proposals to increase the terms of the warranties and guarantees **shall be a consideration during proposal evaluation.**

4. SPECIAL CONDITIONS

A. To avoid damaging the overlying Courthouse plaza features and the waterproofing system, all required repairs and retrofit reinforcing of the Plaza Level garage roof structural members shall be performed from below. No disturbance of the existing features above the top of the Plaza Level structure will be permitted without written permission from the O.R..

B. The Design-Build Firm is advised that the parking areas and drives in the facility will remain operational during the construction period. Parking facilities are in use 24 hours per day, seven days a week.

C. Coordinate all construction activities with the Owner. Prior to starting work, the Owner will notify all parking space occupants of the time(s) when parking will not be available.

D. The Owner will clear, as available construction area, a maximum space equivalent to one floor Level (or two ½ Levels) at a time. If required, Parking Levels P0 and P4 can be entirely closed to traffic in their turn. However, traffic aisles shall be required to allow a continuous flow of pass-through traffic when the other Parking Levels are cleared for construction.

E. The maximum allocated construction area defined herein above shall include the contractor's storage, staging, layout, parking and other functional areas. Due to the limited alternate parking spaces available to the Courthouse personnel, no additional construction area will be available.

F. Place barriers at appropriate locations to prevent access to work areas. Provide all necessary, temporary Maintenance of Traffic devices and signage necessary to direct traffic around and through the construction area in a safe and efficient manner. Post personnel at parking entrances as required to control access to contract-related traffic only.

G. **The day-to-day functions of the Courthouse facility are very noise sensitive. Any construction operations which create excessive noise or vibrations in the occupied portions of the Courthouse shall not be performed during normal operating hours, defined as Monday through Friday, 7:00 A.M. to 6:00.P.M.** The DBF is to arrange for all such work to be performed at times when the Courthouse facility is **not in use** requiring work to either be done "after-hours" or on weekends. Periodically, normal operating hours will extend into evening hours and weekends which may require a temporary work stoppage as directed by the O.R..

H. **The DBF is to protect any vehicles and personal property that are within or adjacent to the work sites. Damage to vehicles or personal property shall be the responsibility of the DBF.**

I. Proper air handling and protection of air quality within the Courthouse facility is required at all times during the construction process. Air quality control shall conform to all applicable local, state and federal statutes, regulations and guidelines. The DBF shall provide necessary special installations and equipment suitable for the purpose at each phase of the work.

5. EXISTING UTILITIES

A. The DBF will be responsible to **temporarily or permanently relocate, support and protect all existing utilities** and other features requiring same during the construction work. The utilities which may be located in the work area includes, but is not limited to, water, sanitary sewer, power, telecommunications, fire sprinkler system, etc.

B. In general, continuous service shall be maintained for all existing utilities. Any requested outages shall be coordinated with and approved by the O.R. at least 72 hours prior to temporary shutdown of any utility. Decisions will be made on a case-by-case basis. However, the DBF must be aware that outages of some utilities may not be allowed.

6. PROJECT SCHEDULE:

All testing, concept and final design, repair and reinforcement construction work, closeout and cleanup under this contract shall be completed by the respective completion dates offered in the winning proposal and accepted by the Owner.

A. The anticipated target dates are specified in the RFP. A corresponding work schedule, **in calendar days**, for this project is anticipated to be as follows:

Concept Design Submittal	Due with Phase II Proposal
Contract Award and Notice to Proceed *	70 days
50% Design Submittal	56 days
Owner Review Time	14 days
100% Design Submittal	42 days
Owner Review Time	14 days
Final Design Submittal	7 days
Owner Review Time	7 days

Substantial Completion of Construction	120 days
Final Completion of Construction	30 days
Contract Closeout	30 days
Total - Post Concept Design Submittal	**390 days**

* Indexes to Section V of the RFP.

A two-week review period shall be allowed for each design submittal except allow 7 days for review of the 100% design. **Review time is included in number of days outlined above.**

B. Early Release Packages for Fast-Track Construction may be authorized by the Owner prior to delivery of the complete Repair and Reinforcement Design Package provided that portion of the design is sufficiently complete to permit its early release.

7. PROGRAMMED PROJECT BUDGET

A. The amount programmed for this Design-Build Contract, to provide a complete useable facility, including all related design, construction and associated fees and miscellaneous costs, is **$3,000,000.00.** However, this amount is only part of a larger programmed amount of $5,000,000.00 for repair of the Leon County Courthouse which includes other projects. As a result, the stated $3,000,000.00 programmed amount for this project may be reduced when costs of the other projects are accounted for.

B. The final contract amount for this project will be in the form of a **Guaranteed Maximum Price** for all aspects of the work specified in the RFP.

C. DBF proposals which proposed a GMP less than the programmed amount **shall be a consideration during proposal evaluation.**

8. CONSTRUCTION PHASING:

A. The DBF shall submit a proposed CONSTRUCTION SCHEDULE AND PHASING PLAN as part of their Phase II Proposal.

B. The actual construction project start-up shall be in compliance with all rules, regulations and permit requirements of the permitting agencies. This may include, but not be limited to, restrictions on construction activities until permits are obtained.

C. The DBF shall develop and maintain an up-to-date construction progress schedule. The schedule shall be presented to show length and dependence of activities on one another and the sequence in which the work is to be accomplished. Critical path or Gannt type charts are acceptable.

D. The Construction Schedule and Phasing Plan shall minimize, as much as practical, the disruption of parking and other operational activities in the facility.

E. The DBF's plan for the Owner's access and use of the space during construction **shall be an evaluation criterion.**

F. During the Construction Phase, at each monthly meeting, the DBF shall provide the O.R. with an updated progress schedule that will accurately reflect the current stage of the work and the DBF's current projected completion date.

G. The DBF shall develop and submit a Schedule of Values which follows the approved project schedule and details the proposed valuation of various project components and work phases. Approval of the Schedule of Values shall be obtained at least two weeks prior to submittal of the DBF's first pay request.

9. CORRELATION AND INTENT:

A. Omissions in the DCP of such words and phrases as "the BFP shall," "shall be," "shall consist of," "as indicated on the drawings," "in accordance with," "shall," "and," "the," etc., are intentional. Such words and phrases shall be supplied by implication.

B. Whenever the words "necessary," "proper," or words of like effect are used in the DCP with respect to the extent, conduct, or character of work required, they shall mean that the said work shall be carried to the extent, must be conducted in a manner, or be of a character which is "necessary" or "proper" under the circumstances in the opinion and judgement of the Engineer.

10. VALIDITY OF INFORMATION PROVIDED:

A. A Structural Condition Assessment was prepared in April 2003 by Structural Diagnostics and Forensic Engineering (SDFE), Inc. This document was revised on June 25, 2003. A copy of the revised document is included herein as Appendix C.

B. The DBF will, at his own expense, verify and accept as his own, all information provided with the DCP. In addition, the DBF shall provide additional investigations, testing programs, etc. that are necessary to supplement the available information to provide a complete, **Professionally Designed and Constructed Project.**

11. INFORMATION VERIFICATION:

A. Questions regarding design, coordination, or interpretation of RFP requirements during the proposal phase shall be directed to:

Keith M. Roberts
Director, Leon County Purchasing
2284 Miccosukee Road
Tallahassee, FL 32308
Phone: 850-488-6949
Fax: 850-922-4084

B. After award of the contract, any questions shall be addressed to the Owner Representative

(O.R.).

C. Questions regarding all access and on-site coordination issues shall be directed to:

Sharon Johnson
Operations Manager, Leon County Facilities Management
1907 South Monroe Street
Tallahassee, FL 32301
Phone: 850- 488-1948
Fax: 850-488-9174

D. Questions regarding physical plant and related building systems and outages shall be directed to:

Albert Sessions
Facilities Support Superintendent
1907 South Monroe Street
Tallahassee, FL 32301
Phone: 850- 488-1948
Fax: 850-488-9174

12. SITE INFORMATION:

A. UTILITY RESOURCES FOR CONSTRUCTION: Water and power for construction will be available **at no cost (for consumption)** from the existing on-site supply systems. If necessary, temporary hook up of utilities shall be coordinated at a source location directed by the O.R. All temporary hookup and tie-ins shall comply with all local codes and requirements and shall be the responsibility of the DBF. The DBF shall pay all costs, provide materials, design, load computations, etc. required for installation and will restore components to the original conditions at project completion`. All temporary tie-ins to the building water system shall be provided with proper back flow prevention devices. Sanitary sewer will not be available on site for use by the DBF. The DBF shall provide portable toilets and other support facilities for all employees.

B. Coordinate the location of debris dumpsters and other such containers with the O.R.. Obtain all necessary driveway and sidewalk closures and other permits from the City of Tallahassee. Owner will pay all required permit fees directly.

C. Additional external or internal vehicle parking for DBF personnel, subcontractors, and other project related vehicles and equipment are not available. Provide off-site parking at no additional cost or use a portion of the available construction work space.

13. PRODUCTS AND SUBSTITUTIONS:

A. PRODUCTS:

1. In their proposal, the Design-Build Firm will specify products by referenced standards and/or by manufacturer's name, model number, or trade name.

B. SUBSTITUTIONS:

1. A product proposed as an "equal" shall be such that all its salient characteristics conform to those of the initially proposed brand name product. These salient characteristics may include, but are not limited to: design, function, size, quality, durability, color, style, texture, and other attributes which, given the nature of the project, may significantly affect its acceptability as a substitute for the listed product. The final determination as to whether a proposed substitute product is equal and/or acceptable shall be made by the Engineer.

14. INSPECTIONS

A. Field Inspections:

1. The Owner reserves the right to retain, at the Owner's expense, an independent inspection service to provide inspection of the structural repair and reinforcement system installations. The DBF shall provide the inspector with free access to the work area.

2. The DBF shall arrange for the material manufacturers to provide inspection of the structural repair and reinforcement system installations. Upon completion of the installation, an inspection shall be made by the manufacturer at no extra charge to the Owner. The inspection is to ascertain that the visible elements of the structural repair and reinforcement systems have been installed in accordance with the manufacturer's published specifications and details.

B. Defective Work: Should the structural repair and reinforcement systems not be approved by the manufacturer's technician, correcting the defective work shall be done by the DBF until the structural repair and reinforcement systems satisfactorily meets all the manufacturers' specifications and requirements. Corrective work will be done **with no additional expense to the owner.**

15. CERTIFICATIONS

A. Manufacturers: Upon completion of the work, the material manufacturers shall certify the installation is according to their recommendations and instructions and issue a warranty pursuant to Section 1.3.H. of this DCP, as a condition of project close-out and final payment.

B. Contractors: Upon completion of the work, the DBF and their subcontractors shall certify the installation is according to their recommendations and instructions and issue warranties

and guarantees pursuant to Section 1.3.H. of this DCP, as a condition of project close-out and final payment.

END OF SECTION

SECTION 2

CODES AND STANDARDS

1. GENERAL

A. The project shall be designed and constructed in accordance with the applicable codes, standards, design parameters or regulations noted in this section or other sections of the Design Criteria Package (DCP). In the event of conflict between codes, standards, or regulations, the most stringent requirement shall apply.

B. Reference to standard specifications of any technical society, organization, or association, or to codes, manuals, or regulations of Federal, State, or local, authorities shall mean the latest standard, code, manual, regulation, specification, or tentative specification adopted and published at least 30 days prior to submittal of Phase II proposals, unless specifically stated otherwise.

C. The reference of any code or standard listed below to the "building official" or the authority having "jurisdiction" or "governmental authority" shall be interpreted to refer to the Engineer as being the authority for code interpretation.

D. The local permitting agency with authority over this project is the City of Tallahassee Growth Management, Building Division, 100 West Virginia Street, Tallahassee, FL 32601.

2. CODE REQUIREMENTS:

A. General: Design and Construction shall be in accordance with the following codes, standards, and regulations. The most stringent shall govern when differences occur.

1. Building and Structural Code: The 2001 edition of the Florida Building Code.
2. Applicable current OSHA Standards and Regulations.

B. Structural: In addition to the general requirements stated above, structural design will meet the latest editions of the following codes, standards, and specifications:

1. American Concrete Institute (ACI), ACI-318, "Building Code Requirements for Structural Concrete and Commentary," 2002 Edition.
2. American Concrete Institute (ACI), ACI-440.2R-02, "Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures."
3. American Concrete Institute (ACI), ACI-503R-93, "Use of Epoxy Compounds with Concrete."
4. American Concrete Institute (ACI), ACI-546R-96, "Concrete Repair Guide."
5. American Institute of Steel Construction (AISC), "Specification for Structural Steel for Buildings, Allowable Stress Design and Plastic Design," 1989 Edition.
6. American Institute of Steel Construction (AISC), "Load and Resistance Factor Design (LRFD) Specification Structural Steel for Buildings," 1999 Edition.

7. American Institute of Steel Construction (AISC), "Specification for Structural Joints Using ASTM A325 or A490 Bolts," 2000 Edition.
8. American Welding Society (AWS), "D1.1 - Structural Welding Code," 2002 Edition.
9. American Society of Civil Engineers , "Minimum Design Loads for Buildings and Other Structures," SEI/ASCE 7-02.
10. American Society for Testing Materials (ASTM), as noted and/or appropriate for materials used.
11. Other established standards, as appropriate.

C. Fire Protection Code

1. Chapter 36, Florida Building Code, 2001 Edition.

END OF SECTION 2

SECTION 3

PROJECT REQUIREMENTS

1. PROJECT OVERVIEW

A. GENERAL

1. The criteria for the Design-Build Contract for **REPAIR AND REINFORCEMENT OF LEON COUNTY COURTHOUSE PARKING STRUCTURES, Tallahassee, Florida** provided herein represents the desired performance and minimum design requirements for this project. This criterion is not, however, intended to restrict the Design-Build Firm from providing quality-based alternatives and/or creative solutions to achieve the objectives desired.

2. The DBF's use of quality-based alternatives and/or creative solutions to achieve the objectives desired **shall be an evaluation criterion**.

3. Contact with Owner During Proposal and Selection Process

   a. During the Phase I proposal and selection process, independent consultation with the Owner or his representatives concerning the project requirements **is prohibited**. During this phase, verification of data can be obtained by contacting the Leon County Purchasing Director, as indicated in Section 1, Paragraph 11.

   b. During the Phase II proposal and selection process, evaluation of proposals will be based on requirements stated in this DCP and independent consultation with the Owner or his representatives concerning the project requirements, **is prohibited**. However, special arrangements will be made with all the short listed DBFs to answer questions in a group forum or in writing in response to written questions with response being transmitted to all short listed firms.

4. PRE PHASE II PROPOSAL SITE VISIT

   a. It shall be the responsibility of the DBFs to visit the site and make themselves completely familiar with the site conditions and quantities and types of material, labor and equipment required to complete the work under this contract.

B. SAFETY ISSUES

1. This project shall be designed and implemented to comply with applicable safety requirements. DBF shall provide for **evaluation** a safety plan with their proposed CONSTRUCTION SCHEDULE AND PHASING PLAN, annotated to indicate

design responses to safety issues and include safety issues within the submittal narrative.

2. The safety of the construction workers, vehicular traffic, pedestrians, both public personnel and County staff using the parking facilities, and the building occupants shall be considered and addressed.

3. Provide temporary wood enclosures, when necessary, to protect pedestrians from overhead work.

4. All Federal, OSHA, State (including VOC limits) and local safety rules shall be in force and strictly observed during the course of this work. Any protective clothing, respirators, ventilation equipment and other devices recommended by the material manufacturers or required by authorities having jurisdiction for use by workers handling these products shall be provided by the contractor.

5. This project will require a heavy construction work site, mandating the use of hard hats and other protective safety apparel rules, barricades around active construction areas, high intensity work lamps, routine cleaning methods, environmental systems, etc. Conformance to all safety requirements shall be the responsibility of the DBF.

C. PERMITS, LAWS AND REGULATIONS:

1. During the performance of this contract, the Design-Build Firm shall comply with all federal, state, local, and installation environmental laws, regulations, policies, and standards. The Design-Build Firm will determine what permits are needed, prepare permit applications, submit same to the proper local/state/federal agencies and obtain all required permits. The Owner will pay all permit fees directly to the permitting agency. A copy of each permit will be provided to the Owner.

D. AVAILABILITY OF EXISTING DOCUMENTS: The following documents will be made available to the DBFs:

1. Original Contract Documents

a. One copy of original Architectural plans and elevations and all original Structural Sheets. These are not as-built plans. **As-built plans for the structure are not available through the County.**

b. Also, note that original specifications are not available through the County.

2. Electronic copy (AUTOCAD) pavement markings. These are not as-built plans and shall be field verified in the field prior to removal or disturbance of existing markings

2. WORK STAGING AREAS:

a. The Design-Build Firm shall obtain approval from the O.R. for all work staging areas prior to the beginning of any work at the project site. All materials and equipment shall be stored in the designated and approved work staging areas only. The number, size and location of the desired areas must be defined by the Design-Build Firm at the time approval is requested. Subsequent changes must also be approved by the OR prior to use.

B. Material stored or activities performed in the DBF's work or staging areas shall not exceed the original design structural live loadings listed in paragraph 2, above.

C. The Design-Build Firm's material storage areas, shall be surrounded by security fencing. All trash and construction debris must be disposed of off-site at the Design-Build Firm's expense. Disposal must follow EPA guidelines and be hauled to a licensed disposal site.

D. All protection and safeguarding of materials, equipment and tools used in this work is the responsibility of the DBF. Any special temperature and/or humidity conditioned spaces required for storage of materials used in this work shall be furnished and maintained and shall be removed by the DBF at the completion of the work.

3. REQUIRED SUBMITTALS

A. General

1. The project schedule and submittal requirements presented in this DCP are minimum requirements based on an assumed approach to this project. The DBFs proposing for this project may propose other schedules (but may not extend the date for final Project Closeout).

2. The DBF may propose to perform the work on a fast track basis. In this case, the submittal schedule and content requirements may be adjusted. Requests for submittal schedule and content adjustments must be made in writing and approved in advance by the O.R.

3. Fully developed repair and retrofit reinforcing master plan sheets will be required before consideration will be given to advance (or limited) Notice-to-Proceed for Early Release Packages for Fast-Track Construction.

B. Concept Submittal - **To be submitted with Phase II Proposal.**

1. Prepare and submit a Concept Submittal for repair and reinforcement of the structure. As a minimum, the Concept Submittal shall include the following:

   a. A written narrative describing the proposed project approach to repair and retrofit reinforcement of the structure.
   b. An outline of a materials testing plan to verify material strengths and other structural properties.

c. Concept structural repair and reinforcing drawings, including typical details of repair and reinforcement methods for various structural elements and conditions.

d. Outline (narrative) specifications including proposed repair and reinforcement methods and procedures and list of materials to be utilized.

e. Concept Construction Phasing Plan for the DBF's proposed phasing of the work to include use of space for construction, staging and storage areas and the Owner's continuous access and use of the parking space during construction.

f. Proposed Project Schedule for the project beginning at the Notice to Proceed and extending through project completion and closeout. Schedule shall include all key activities and all project milestones indicated on the anticipated schedule present in this DCP. Proposal for fast track design and construction of project components shall be included.

g. Proposed Safety Plan.

C. 50 Percent Design Submittal (Minimum) Requirements

1. All drawings, specifications and other items required to support the design developed to a 50 percent completion.

2. Draft Specifications for repair and retrofit reinforcing of the structure.

3. Additional testing program reports (if completed or required).

4. Final Safety Plan, inclusive of any proposed major shoring system details, falsework, temporary support procedure for major utilities, and phased maintenance of traffic plans and details.

5. Preliminary Schedule of Values with subcontractors and material sources identified and projected at expected levels of values and estimated as to a specific time and place on the project schedule. Identify proposed utilization of minority and women owned business, as well as locally owned business participation.

D. 100 Percent Design Submittal Requirements

1. All drawings, specifications and other items required above, completely developed.

2. Completed Specifications tailored to this specific project, including identification of all materials to be utilized.

3. Final testing program reports.

4. Final Plans and specification shall be formatted as outline in Section 4 of this DCP.

5. Shop drawing submittal schedule as required by the Quality Control Plan.

6. Final construction phasing plan, safety plan, construction schedule and Schedule of Values.

7. Pavement striping and marking and signage layout plan.

8. The 100% submittal must be complete and final in the opinion of the DBF's Structural Engineer and Project Manager.

E. Final Submittal

1. Resubmit 100 Percent Design Submittal, adjusted for comments.

F. Close-Out Submittal (Documentation at final completion)

1. As-Built Drawings

2. As-Built (annotated) Specifications

3. Final reports for all testing before and during construction, including any load test results.

4. Operation and Maintenance Instruction Manuals.

5. Warranties.

4. DBF QUALITY CONTROL / QUALITY ASSURANCE

A. Definitions:

1. Quality Management System (QMS): The means by which the DBF assures himself that his design and construction comply with the requirements of the contract.

2. Quality Control (QC): The DBF's inspection, examination and control of his own, his suppliers', and his Subcontractors" work and activities to ensure compliance with contract requirements.

3. Quality Assurance (QA): The means by which the DBF fulfills his responsibility for assuring that the QC system is functioning effectively.

B. General: The DBF shall establish and maintain an effective quality management system in

compliance with professionally accepted design and professionally accepted inspection of construction practices and as herein provided. The QMS consists of plans, procedures, and organization necessary to provide a design and materials, equipment, workmanship, fabrication, construction and operations which comply with contract intent and specific requirements. The system shall cover both design and construction functions, both on site and off site, and shall be keyed to the proposed design and construction sequence. The DBF will designate a Professional Engineer or Architect, registered in the State of Florida, as the responsible QMS authority. Different professionals may be appointed for the separate design and construction phases. Quality management personnel shall also be charged with the responsibility for overseeing the DBF's Safety Program. This duty will be clearly set forth in the QMS documentation.

C. DBF Kick-off Meeting: As soon as practicable after contract award, the DBF shall meet with the Owner Representative (O.R.) and review and discuss the details of the DBF's quality control system. During the meeting, a mutual understanding of the quality control (QC) system details shall be developed, including the forms for recording the QC operations; control activities, testing, and administration of the system for both on-site and off site. A letter, signed by an authorized official of the firm, which describes the responsibilities and delegates the authorities of the Chief of Quality Control shall be furnished to the O.R. within 5 calendar days after the meeting. Minutes of the meeting shall be prepared by the DBF and shall be signed by both the DBF and the O.R.

D. Quality Management Plan: The plan will include as a minimum:

1. A description of the quality management organization.

2. The number, classifications, qualifications, duties, responsibilities and authorities of personnel.

3. The method of design review proposed to assure that the design meets all contract intent and specific requirements.

4. Procedures for processing, reviewing, and approving shop drawings, samples, certificates, and other submittals.

5. QC activities to be performed, including those of Subcontractors, off site fabricators and suppliers. Each phase of QC; preparatory, initial and follow up as hereinafter defined; will be covered for each separable activity.

6. Control testing procedures.

7. Documentation format for QC activities and testing.
8. Performance testing for acceptance of all facility electrical, mechanical and other systems.

E. Notification of Changes: After acceptance of the QA/QC plan, the DBF shall receive the

O.R.'s approval in writing of any proposed change to the plan or QC personnel.

F. Corrective Actions: At any time, if it is determined by the O.R. that the QC system, personnel, instructions, controls, tests or records are not providing design or construction which conforms to contract requirements, the DBF will be required to correct the deficiency, i.e., replacement of personnel, additional QC inspection, etc.

G. Quality Control Organization:

1. Design: Design quality assurance shall be the responsibility of the Engineer who will seal all drawings and specifications as the "Engineer of Record." He shall also be the final approval authority for shop drawings, material submittals and any other tests and submittals affecting the final design.

2. Construction: Chief of Quality Control: The DBF shall identify an individual, whose qualifications are subject to approval by the O.R., who shall be responsible for overall quality control and have the authority to act in all QC matters for the DBF. Minimum qualifications will include State of Florida registration as a professional engineer or architect. This individual will certify, and seal where required, all submittals and QC approval and disapproval documentation. Replacement of the QC Chief will be subject to approval of the O.R. and require full justification. No work requiring observation or testing will be conducted unless the QC Chief, or his designated representative, is present. The QC Chief shall be at the work site during scheduled weekly meetings with the O.R. unless otherwise specified at the initial coordination meeting.

3. QC Personnel: The QC Chief will assign QC responsibilities in writing with copies of assignments to the O.R.. All personnel assigned QC responsibilities under the Chief shall be fully qualified by experience and technical training to perform their assigned responsibilities. Under no circumstances will QC personnel report to anyone other than the QC Chief. The job superintendent will not be assigned QC functions.

H. Construction Submittals: The DBF shall prepare a submittal register and submit it for approval to the O.R. prior to start of construction. This register may be modified later with the O.R.'s approval. The register will list all proposed submittals and tests for purchased materials and equipment, and for subcontracts.

1. Procedures: The QC Chief will ensure that only materials and equipment which comply with contract requirements are purchased and delivered to the job site or used in off site fabrication, unless specific deviations are approved as specified hereinafter.

I. Control: The DBF's QC system shall include at least the following three phases of quality control for each major feature of work:

1. Preparatory: Include a review of contract requirements to assure that materials, sample panels and equipment conform to contract requirements, and that control testing including procedures is finalized. Include examination of the work area, upon which new work is to be placed, to verify that work over which new work is to be placed conforms to contract requirements, and determination that required materials are on hand and properly stored. Listed below is a checklist of items to be covered.

    a. Contract plans and specifications.
    b. Approval of submittals.
    c. Physical examination of materials.
    d. Completion of preliminary work.
    e. Procedures for accomplishing work.
    f. Specifications review.
    g. Safety related issues.
    h. Testing, i.e. number of tests, when, where, and method of recording.

2. Initial: Implement the QC procedures for each major work element. The following steps are suggested:

    a. Identify full compliance.
    b. Check preliminary work.
    c. Establish level of workmanship.
    d. Apply controls.
    e. Resolve all differences.
    f. Check safety.

3. Follow Up: The followup phase shall be performed continuously to verify that control procedures are providing an end product which complies with contract requirements. Adjustments to control procedures may be required based upon the results of this phase and control testing.

J. Tests:

1. Testing Procedures: The DBF shall perform tests specified or required to verify that control measures are adequate to provide a product which conforms to contract requirements. Procedures include methods of performing quality control which include that for his Subcontractors work.

2. Appropriate forms shall be used to document each test performed.

3. The DBF shall procure the services of a qualified, independent, industry recognized testing laboratory to perform all construction testing for the project.

4. A copy of all reports of tests performed by an industry recognized independent laboratory shall be kept on file at the site and made available to the O.R. on request.

This requirement is in addition to any requirement elsewhere established and does not reduce reports required elsewhere to be submitted or the number thereof.

5. A list of tests to be performed shall be furnished to the O.R.. The list shall give the test name, specification paragraph containing the test requirements, and the personnel and laboratory responsible for each type of test. The DBF shall perform the following activities and record and provide the following data:

   a. Verify that testing procedures comply with contract requirements.

   b. Verify that facilities and testing equipment are available and comply with testing standards.

   c. Verify that recording forms, including all of the test documentation requirements, have been prepared.

K. Defective Work: The DBF shall not build upon or conceal defective work.

L. Documentation: The DBF shall maintain current records, on an appropriate accepted form, of quality control operations, activities, and tests performed including the work of suppliers and Subcontractors . These records shall include factual evidence that the required activities or tests have been performed, including but not limited to the following:

1. Quality Control (QC) Reports: The specified reports must be completed no later than 10:00 a.m. the following workday and must be factual records of the DBF's daily quality control activities and resulting actions. As such, they should stress as major components of the report the following:

   a. Construction underway during the time frame of the report (i.e., concrete work, structural steel erection, etc.).

   b. Phase (preparatory, initial, follow up), and locations of control activities and/or check tests that were made. As a minimum, the reports shall address items noted under paragraphs 5.I.1 and 5.I.2, above.

   c. Results of control activities, including control actions taken, nature of deficiencies observed, and corrective actions taken or to be taken. If no activities are listed on the report, it must be assumed that no work was underway or no control activities were accomplished and that QC is not being implemented.

   d. Report of tests performed, with the results of the tests, including failures and remedial action to be taken. Test results should be attached to the report form.

   e. Actions taken in review of submittals, including submittals approved and delays,

or predicted delays, caused by a lack of submittal actions.

f. Monitoring of materials and equipment upon arrival at the job site and prior to incorporation into the work for compliance with submittal approvals, damage and storage information.

g. Job safety; safety hazards/violations, corrective action taken, safety meetings; daily comments required.

2. The report must contain a record of control actions and tests for all work accomplished subsequent to the previous report. Separate reports of different phases of the work may be submitted by the responsible QC representatives or they may be combined into one consolidated report.

3. In all cases, the report or reports must be verified and signed by the designated Chief, Quality Control. The verification should contain the statement that all supplies and materials incorporated in the work are in compliance with the terms of the contract except as noted. These records shall cover both conforming and defective or deficient features. Legible copies of these records shall be maintained at the site and furnished to the O.R. or his designated representative when so directed.

M. The Owner's quality assurance activities will consist of construction project observation, review of QC activities and records, and discussions of areas where contract deviations appear evident. **Under no circumstances will the presence or absence of the O.R.'s observation relieve the DBF from full compliance with contract provisions.**

5. CLEANUP

A. Remove debris resulting from the work from the project site at no additional cost to the Owner. Any accumulations of construction residue, trash, debris and empty containers occasioned by this work shall be removed daily by the Contractor. Collect waste material which may constitute a fire hazard and place in closed metal containers.

B. Upon completion of the work, a final cleanup shall be made, and the area inspected by the O.R. prior to acceptance.

END OF SECTION 3

SECTION 4

DESIGN REQUIREMENTS

1. PROJECT DESCRIPTION AND SCOPE-OF-WORK:

A. The intent of this project is to address the issues generally outlined in the SDFE report attached hereto in Appendix C. The Reinforced Concrete (R/C) structure, to the limits defined in Section 1 and Appendix B of this DCP, is exhibiting cracking and spalling and other signs of structural distress and failure at numerous locations, as outlined in the SDFE report.

B. The causes of the problems are speculated to include under design, overloading and unaccounted for dynamic loadings.

C. The overall scope of this project is to provide all design and construction required to develop and implement repair and reinforcement solutions to the structural issues generally outlined in the SDFE report and in this DCP, complete.

D. Specifically, the design scope of the project includes all supplemental material and strength testing, product research, design submittals, review and verification of design and criteria information contained within this DCP package, and all supplemental design required to prepare final construction documents for **REPAIR AND REINFORCEMENT OF LEON COUNTY COURTHOUSE PARKING STRUCTURES**, with criteria as described herein. The final design shall include, but not be limited to, plans, specifications and calculations for: all new construction; incidental demolition; temporary construction and restoration; relocation of existing features, and accessories as necessary; calculations, drawings and specifications of design solutions and alternates offered; and provision and installation of all materials and components for a complete repair and reinforcement of the identified structural deficiencies and as provided in criteria presented herein.

E. For the purposes of the DBF's Phase II Proposal, field verification of existing conditions and reasonable review of the requirements presented in the DCP is required to prepare a cost and concept proposal. For the concept, only conceptual and limited preliminary design of the proposal solutions is required as outline in Section 3, REQUIRED SUBMITTALS. It is the intent of this DCP to minimize conceptual design expense on the part of the DBFs prior to award of the contract. However, innovative and creative solutions presented in the proposals which meet or exceed the DCP requirements and fall within the budgetary limits prescribed, are encouraged and will receive quality points when the proposals are evaluated.

F. The scope-of-work also includes obtaining all permits required for the project (see Section 3, paragraph 1.C.).

2. STRUCTURAL DESIGN CRITERIA

A. Codes and References: See Section 2.

B. Design Load Requirements: All Structural repairs and reinforcement shall be designed in accordance with the load provisions of the Florida Building Code or the original load assumptions used in the design of the building, whichever is more stringent.

C. Basis of Original Design: The following loads are the basis of the **original design** based on GENERAL NOTES on Sheet S2.2 of the original drawings dated February 14, 1985. The DBF shall use higher loads, based on the recommendations of his Structural Engineer, when required to meet current codes and to achieve the objectives of this project.

1. Live Loads
   - (a) Office Spaces - 50 p.s.f.
   - (b) Parking floors and ramps - 50 p.s.f.
   - (c) Mechanical rooms - 125 p.s.f.
   - (d) Stairs and landings - 100 p.s.f.
   - (e) Dumpster area - To be determined based on equipment and vehicles utilized.
2. Superimposed Dead Loads
   - (a) Garage floors and ramps - 20 p.s.f.
   - (b) Occupied areas - 30 p.s.f.
3. Wind Velocity - 90 m.p.h.

D. Material Properties

1. Existing Structures: The following material properties were the basis of the original design based on GENERAL NOTES on Sheet S2.2 of the original drawings dated February 14, 1985:
   - (a) Concrete Compressive Strength - 4,000 P.s.i. @ 28 Days.
   - (b) Reinforcing Steel - ASTM A616, Grade 60
   - (c) Structural Steel - ASTM A36
   - (d) Welded Wire Fabric - ASTM A185
   - (e) Bolts - ASTM A325f
   - (f) Anchor Bolts - ASTM A307 or ASTM A36
   - (g) Concrete Masonry Units (Cmu) - ASTM C90, Grade N, Type 1
2. New Construction: The materials to be used by the DBF shall be selected by the DBF's Structural Engineer. DBF's Engineer shall verify that all new materials are compatible with existing materials and are adequate to perform correctly in the project environment. Minimum properties of new materials shall be as follows:

(a) Concrete Compressive Strength - 4,000 P.s.i. @ 28 Days.
(b) Reinforcing Steel - ASTM A616, Grade 60
(c) Structural Steel - ASTM A36
(d) Welded Wire Fabric - ASTM A185
(e) Bolts - ASTM A325f
(f) Anchor Bolts - ASTM A307 or ASTM A36

3. TESTING REQUIREMENTS

A. The DBF will perform the following minimum testing program on the existing structural elements:

1. Compressive Strength of Concrete : Obtain four field cores at each Level of the structure. Location of cores shall be selected to least impair the strength of the structure. Fill core holes with concrete grout. Cores shall be obtained and tested in accordance with ASTM C42 except the cores shall be air dried (temperature 60°F to 80°F, and relative humidity less than 60%) for 7 days before test and shall be tested dry.

2. Non-destructive determination of reinforcing bar positions, spacings and sizes by x-ray or other methods. Sample a minimum of eight (8) locations on each level. DBF's engineer shall compare results with original plans and make judgements related to additional testing requirements as necessary to determine strength of existing structure.

3. Carbonation Testing of Concrete: Test four locations on each level.

4. Petrographic Analysis of Concrete: Test four locations on each level per ASTM C457.

5. Other testing as determined by the DBF's Structural Engineer.

B. Locations of test sampling shall be distributed through the structure and shall be determined by the DBF's Structural Engineer.

C. The results of this testing will be incorporated into the design of the repairs and reinforcement of the structure.

D. Provide a copy of all test results to Owner for the file.

4. DRAWING REQUIREMENTS

A. DBF shall include in the design package complete Repair and Retrofit Reinforcement drawings with sufficient information and detail to completely define the project and to enable a complete review and understanding of the proposed work by the Owner and reviewing agencies. Drawings shall include the following minimum information:

1. Overall layout plans clearly delineating and describing the limits and scope of the work at each level.

2. Structural Notes including a summary of design loads, material properties, and other basic project information.

3. Structural details of each structural repair and retrofit reinforcement condition. Details shall be located and cross referenced on the plans sheets.

4. Schedules and tables of variables for "typical" conditions.

5. Other plans and information as required and as standard in the industry.

B. Final drawings and details shall be bound into a single set and shall be signed and sealed by the DBFs Structural Engineer. Minimum Plans size shall be 24 by 36 inch sheets. Provide a cover sheet with project title and names and addresses of Owner, DBF and other key entities. Arrange and number the sheets in a logical order consistent with design industry standards.

5. SPECIFICATION REQUIREMENTS

A. CSI FORMAT SPECIFICATIONS: DBF shall include within the design package a set of specifications which are tailored to this specific project. Specifications shall be derived from construction industry recognized "master specification" models as have been developed by the Construction Specifications Institute (CSI). The DBF's specifications shall conform to, and incorporate, the requirements of this DCP.

B. Material Manufacturers shall be called out by name, including product names and numbers, in the specifications when a specific product manufacturer is proposed for use.

C. If, after review of the final Design Package by the Owner, the DBF decides to change products to be used in the work, a written request shall be submitted complete with full product submittal and an explanation of the reason for the change.

D. Project specifications shall be on 8-1/2 by 11 sheets, bound in booklet form, signed and sealed by the DBFs Structural Engineer. (See Section 1.13).

6. DESIGN CALCULATIONS

A. The DBF's Structural Engineer shall prepare a full set of structural calculations as necessary to justify and back-up the repairs, retrofit reinforcing systems and all other structural elements utilized in this project.

B. Initially, submittal of the signed and sealed calculations will not be required unless requested by the O.R. should any structural issues or questions arise during the work. **Calculations shall be kept with the DBF's project files and be available to the Owner**

for a period of 5 years following project closeout.

7. PROJECT MEETINGS

A. KICKOFF MEETING: As soon as practical following the initial Notice-to-Proceed, **a kickoff meeting** will be held. Minimum attendees shall be the Owners Representative, the Design Criteria Engineer, the DBF's Project Manager and Structural Engineer and other parties to be assigned.

B. DESIGN PHASE: After each design milestone submittal, a **design review meeting will be held** following the Owner's review of the submittal. Minimum attendees shall be the Owners Representative, the Design Criteria Engineer, the DBF's Project Manager and Structural Engineer and other parties to be assigned.

C. CONSTRUCTION PHASE: During the construction phase, **monthly meetings will be held** for the purpose of reviewing the DBF's updated schedule and the pay request and to discuss and resolve any outstanding issues. Minimum attendees shall be the Owners Representative, the Design Criteria Engineer, the DBF's Project Manager, Project Superintendent and Chief of Quality Control and other parties to be assigned. This meeting will be separate from, and not replace, the DBF's internal meeting with their staff, subcontractors and material suppliers.

8. CONSTRUCTION PHASE SUBMITTALS

A. Project Specifications shall require normal construction related submittals including, but not limited to, concrete mix designs, material product data sheets, product safety sheets and installation instructions, shop drawings, erection drawings, etc. as is standard in the industry.

B. The DBF's Structural Engineer shall review and approve (or otherwise comment on) all construction related submittals to assure that the project plans and specifications are being conformed with.

C. One copy of all submittals shall be provided to the O.R. for information and file at the same time they are provided to the DBF's Structural Engineer.

9. DESCRIPTION OF REPAIRS AND REINFORCEMENT

A. General:

1. DBF shall consider the data gathered and conclusions and recommendations presented in the Structural Condition Assessment bound herein in Appendix C. All issues raised in said Assessment , along with all additional issues found during the DBF's additional investigations and testing program shall be addressed in the DBF's design and construction of the repair and reinforcement of the R/C structures within the defined Limits of the Project.

2. The following are intended as general guidance for typical solutions to structural repairs and reinforcement of the structure and are not intended to be all inclusive or to preclude creative and effective solutions to be provided by the DBF.

B. Major Crack Repairs:

1. Major Cracks:

(a) Definition: Significant crack meeting one, or more of the following criteria:

(1) Crack width of 0.05 inches or greater.
(2) Crack which extend through the structural beam or slab.
(3) Any crack exhibiting leaching of water or rust stains.
(4) Crack exhibiting vertical surface displacement across the crack.
(5) Other cracks determined by the DBF's Engineer to be structurally significant.

(b) Proposed Repair Method: High strength crack injection system. Prepare crack per manufacturer's recommendations as determined by the DBF's Engineer.

C. Minor Cracks:

1. Definition: All other cracks.

2. Proposed Repair Method: Gravity feed, high strength crack filling system. Prepare crack per manufacturer's recommendations as determined by the DBF's Engineer.

D. Beam Reinforcing: Installation of retrofit reinforcing system consisting of externally adhered carbon fiber strips or other materials as designed by the DBF's Engineer.

E. Slab Reinforcing: Installation of retrofit reinforcing system consisting of externally adhered carbon fiber strips or other materials as designed by the DBF's Engineer.

F. Spalling Concrete: Patch with high strength cementitious patch material appropriate for the location and condition. Prepare surface per manufacturer's recommendations as determined by the DBF's Engineer.

G. Repair of Spalling at Expansion Joint Slab Support along Column Line M, all Levels: Repair deteriorated concrete, improve performance of slip joint and widened bearing area under slip joints as designed by the DBF's Engineer. See the Structural Condition Assessment bound herein in Appendix C.

H. Retrofit Reinforcement of Punching Shear Cracking Around Columns: Provide Steel shear Collars or other reinforcement as designed by the DBF's Engineer.

I. Retrofit Reinforcing Requirements for Specific Areas: As a minimum, retrofit reinforcing (or other strengthening procedure) of the following areas, as delineated in the Structural Condition Assessment bound herein in Appendix C, is required in this project. Other areas to be reinforced shall be determined by the DBF's Engineer.

1. Slabs and Beams under Travel Lanes

2. Selected Heavily Cracked Slabs and Beams Outside Travel Lanes:

3. Beams in One-way Slab Areas, Levels 1 Through 4.

4. Beams and slabs in One-way Slab Areas, Plaza Level.

5. Beams and Slabs supporting Dumpster floor area on Level P–3.

6. Level P-1, Sagging floor structure below masonry wall running between columns A.6-19.7 to B.9-19.7: Jack up floor system, install retrofit reinforcing and grout remaining gap below wall solid.

7. Other locations and conditions as indicated in Appendices B and C and as determined in the field.

J. Method of Repair of cracking and delamination of a section of R/C exterior wall located between Levels P-0 & P-1 and Column lines A and F.1:

1. The DBF's Engineer shall evaluate cracking and delamination in the exterior wall in the area identified and recommend a repair solution.

2. The DBF shall include in the GMP an **allowance of $5,000** for implementation of the recommended repair. Actual cost shall be negotiated as a change to the Design-Build Contract.

K. Traffic Coating: Provide appropriate Traffic Coating system at entries. Determine extent of coating into building to eliminate water intrusion into building structure. Coating shall be high viscosity crack filling system.

10. FIRE PROTECTION FOR INSTALLED REINFORCING SYSTEMS

A. All installed retrofit reinforcing systems shall be coated with Benjamin Moore #220 Latex Fire Retardant Coating M59. Applications shall be in accordance with the manufacturer's recommendations. **Provide one additional, unopened gallon of the product to the Owner.**

11. ANCILLARY SCOPE-OF-WORK ITEMS: The following scope issues are secondary to the primary structural portion of the project scope, but shall be performed as a part of this project.

A. PAVEMENT MARKINGS

1. Prior to the preconstruction conference, the DBF shall field measure, prepare and submit a pavement striping and marking layout plan, delineating all existing parking spaces, directional arrows, symbols and signs, and other pavement markings and signage. The submittal shall also include plans and details for all temporary signage and markings required to redirect the garage traffic flow during the work. An electronic copy (AUTOCAD) of the existing layout will be provided by the Owner, but will require field measurement and verification and modification to match existing field conditions.

2. During the structural repair and reinforcement of the structure, the DBF shall remove pavement markings and signage as necessary to perform the work, as required to avoid damage to existing signage and/or as required to temporarily redirect traffic flow in the garage. Install temporary signage and markings as appropriate.

3. Following the repair and reinforcement of the structure, the Design-Build Firm shall reinstall or replace permanent signage to its original condition and location and reinstall pavement markings to match the original layout, as follows:

   (a) Pavement Marking Paint: Modified acrylic latex emulsion traffic lane-marking paint, factory-mixed, quick-drying, and non-bleeding (Fed. Spec. No. TT-P-1952B). Colors: Yellow on concrete, White on asphalt, International Blue on handicap isles and symbols.

   (b) Cleaning: Sweep and clean surface to eliminate material and dust.

   (c) Striping: Parking lanes striping shall be 4-inches in width. Centerline striping shall be 6-inches in width. Other stripping, chevrons, directional arrows and handicap parking symbols shall match existing.

   (d) Do not apply traffic and lane marking paint until layout and placement has been verified with the Owner.

   (e) Apply paint with mechanical equipment to produce uniform straight edges. Apply in 2 coats, using manufacturer's recommended methods, at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

B. PAINTED COLUMNS

1. Concrete columns in the garage area are architecturally painted and colored (coded) by floor location. Following the repair and reinforcement work, the DBF shall repaint and renumber any columns whose painted surface is affected or otherwise damaged by the work.

2. All columns to be painted shall be totally repainted to conform with the original condition and color scheme. Touch-up or partial repainting is not acceptable. Architectural plans of existing paint system are available from the O.R.

3. Colors, paint materials and standards shall match existing as close as possible, as approved by the OR.

12. OPERATIONS AND MAINTENANCE INSTRUCTIONS

A. Submit operations and maintenance data and other pertinent information in 8-1/2 by 11 inch sized text pages, bound into 3-ring binders with durable plastic covers.

B. Preparer binder covers with printed title "OPERATIONS AND MAINTENANCE INSTRUCTION, tile of project, and subject matter of binders when multiple binders are required.

C. Internally subdivide the binder contents with permanent page dividers with laminated plastic tabs, logically organized, as follows:

1. Table of Contents.

2. Project directory listing names, addresses and phone numbers of Owner, DBF, all other Contractors and Subcontractors and material suppliers (including contact name).

3. Operations and Maintenance Instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses and telephone numbers of Subcontractors and suppliers.

4. Material data sheets, Original Warranties and Bonds.

D. Submit one draft copy of completed manual 15 days prior to final inspection. This copy will be reviewed by the O.R. and returned, with comments, after final inspection. Revise content of all document sets as required prior to final submission and submit final manual(s) within 10 days after final inspection.

13. INSTRUCTION ON OPERATION AND MAINTENANCE

A. The DBF shall instruct the Owner's staff on the operation, maintenance and repair of all installed systems using knowledgeable instructor(s) familiar with the installed systems and material.

END OF SECTION 4